

**Method For Distributed Allocation Of System Hardware Resources  
For Multiprocessor Systems**

**Abstract**

5           A method of allocating hardware resources in a multiprocessor computer system which  
utilizes non-uniform memory access and distributed system resources across multiple nodes. The  
disclosure provides a method for allocating system resources across multiple nodes of a system  
communicating through a hardware device comprised of a tag and address crossbar system  
interconnecting node control devices. The method provides for allocation of transaction units or  
10   transaction identifiers in an allocating component for use in a multiple target component which may be in  
a distinct target node within the multiple node system. Based on the operations or requests that a target  
node receives from multiple external request source nodes, each requiring the use of target transaction  
unit objects such as transaction identification bits, the method provides inclusion of such information in  
the initial request to a target node which allows any data transmission between the source node and the  
15   target node, or the target node and the source node to be accomplished without any further intervention  
by the allocating component. Such component may be a local memory control agent or device. The  
method allows for reduction of system latency by communicating the identification of the hardware  
resource target, allocated by a tag and address crossbar, through the system data crossbar by attaching  
such information to the data to be communicated to the resource.

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